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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,192	06/21/2001	Patrick J. Bohrer	AUS920010131US1	6527
7590 01/13/2004			EXAMINER	
Frank C. Nicholas CARDINAL LAW GROUP Suite 2000 1603 Orrington Avenue Eanston, IL 60201			WILSON, YOLANDA L	
			ART UNIT	PAPER NUMBER
			2113	
DATE MAILED: 01/13/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,192

Applicant(s)

BOHRER ET AL

Examiner

Yolanda Wilson

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1,17,33,16,32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1,17,33 include the following limitations 'the condition limit to the active group' and 'the condition limit to the inactive group'. 'Condition limit' is not disclosed previous to those statements concerning the active group or the inactive group. Appropriate correction is required. An example of a correction would be: 'a condition limit to the active group' and 'a condition limit to the inactive group'. Claim 16 includes the following limitation 'controlling the duty cycle'. 'Duty cycle' is not disclosed in claim 1. Claim 32 includes the following limitation 'controlling the duty cycle'. 'Duty cycle' is not disclosed in claim 17. Appropriate correction is required. An example of a correction would be: 'a duty cycle'. Claims 2-16, 18-32 are also rejected for depending upon the above stated rejected claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1-4,6-12,17-20,22-28,33 are rejected under 35 U.S.C. 102(e) as being anticipated by Horst et al. (USPN 6484235B1). Claims 1,17, and 33, discloses selecting units of data storage... allocating the disks between an active group and an inactive group... allocating units of data storage having a usage factor that meets the condition limit to the active group... allocating units of data storage having a usage factor not meeting the condition limit to the inactive group... selectively reallocating disk between the active group and the inactive group based upon a disk use parameter in column 14, lines 49-60.

5. As per claims 2 and 18, discloses classifying the disks into a plurality of disk groups, including said active group and said inactive group in column 14, lines 49-54.

6. As per claims 3 and 19, discloses the classifying the disk groups comprises assigning each disk to the active group based on required performance, power consumption, and desire to reduce and balance the wear within the disk groups.

7. As per claims 4 and 20, discloses determining the usage factor comprises determining a unit access parameter column 15, lines 12-23.

8. As per claims 6 and 22, discloses the usage factor classifies each unit based on whether the unit meets a conditional limit in column 14, lines 49-60.

9. As per claims 7 and 23, discloses a total storage requirement is computed for each unit that meets the condition limit in column 16, lines 7-11.

10. As per claims 8 and 24, discloses the active group is determined based on the condition limit and the total storage requirement in column 14, lines 49-60 and column 16, lines 7-11.
11. As per claims 9 and 25, discloses the condition limit is determined based on the usage factors column 15, lines 12-23.
12. As per claims 10 and 26, discloses each unit meeting the condition limit is allocated evenly among the active group in column 15, lines 12-23.
13. As per claims 11 and 27, discloses each unit not meeting the condition limit are allocated evenly among the inactive group in column 15, lines 12-23.
14. As per claims 12 and 28, discloses allocating each unit comprises assigning and storing the unit in column 14, 49-60.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horst et al. (USPN 6484235B1) in view of Taoda et al. (USPN 5809547A). As appears in claims 5 and 21, Horst et al. fails to explicitly state the access parameter comprises file popularity.

Taoda et al. discloses in the abstract, "With respect to an often-accessed file, the apparatus records it among a number of optical disks or makes a duplicate copy of the file and stores the duplicate copy in an optical disk different from the optical disk containing the often-accessed file."

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the access parameter comprise file popularity. A person of ordinary skill in the art would have been motivated to have the access parameter comprise file popularity because files that are accessed on a regular basis need to be handled in an appropriate manner by a memory system.

17. Claims 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horst et al. (USPN 6484235B1) in view of Bennett et al. (USPN 6577465B1). As appears in claims 16 and 32, Horst et al. fails to explicitly state the duty cycle comprises controlling the starting and stopping of the disks.

Bennett et al. discloses in column 4, lines 57-61, "In an alternative embodiment, the frequency and duty cycle are calibrated for each individual disk drive in order to customize the power management and braking control, thereby increasing manufacturing tolerances and design flexibility."

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the duty cycle comprise controlling the starting and stopping of the disks. A person of ordinary skill in the art would have been motivated to have the duty cycle comprise controlling the starting and stopping of the disks because

the duty cycle is adjusted in order to stop disk drives. Bennett et al. discloses in column 6, lines 17-22.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yolanda Wilson whose telephone number is (703) 305-3298. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



ROBERT BEAUSOLIEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100